

RS - INT
REGENERATION
Planting
Direct Seeding

May 10, 1939

NOTES ON DIRECT SEEDING PLOTS - FIRST INSPECTION

Granite - Flat

In spots where some or all of seedlings eaten by rodents or rodent presence indicated, "germination" is of no real significance because of varying and unknown numbers for which seed itself was eaten or for which no "stubs" remained as evidence. (Probably generally true.)

A few cases of screen lifting by growth of vegetation, mainly perennials and particularly in the unprepared spots, were noted. Cones on "N" (no preparation) spots on this site showed in general a smooth and even but not a tight contact with ground, i.e., they were not set into the soil.

In a few spots where apparently the soil had been muddy at planting time, the soil was caked and cone "cemented in", thus protecting OK, the seedlings may have had some difficulty in breaking thru.

Pine Creek

Draw. Germination not complete; in a few sheltered and most northerly spots, probably not begun yet.

Some rodent eating is quite fresh - has taken place within last 24 hours (more than on Granite flat, where most of destruction was from days to possibly weeks old).

On this site, most of the cases of "screen out" (SO) were apparently caused or could ~~have~~ easily have been caused by pushing or upheaval by rodents themselves; one or two possibly by deer, etc.

Untreated (N) spots in brush are relatively moist; seedlings backward in development and probably many not germinated yet.

Many small cones where rodents had destroyed seed or seedlings showed no openings or entrance burrows, but could readily have been lifted and settled down again as they were loose on the surface.

All "stubs" of rodent-nipped seedlings and all dead seedlings were removed to avoid re-counting and confusion with later germination and deaths.

All cones were replaced in a "rodent proof" position.

Station - South

Examination was late to give true "germination" where seedlings had died young, as they did in some cases; probably some died remnants were overlooked.

Deaths ascribed to "F" or "F.?" are in most cases doubtful and would better be treated as "Unknown - dried up". There were practically no cases of fresh unquestionable killing by damping-off. Ascribing the losses to "fungi" is justified only on the doubtful assumption that at the time they died (for most of them many days, possibly weeks, ago) that heat was not strong enough to kill and soil too moist for drought loss. Drought is a real possibility on this severe site, in that root development may not have kept pace with soil drying right after germination (many dead seedlings were not out of seed coats when killed). Heat kill is also possible, tho was not of the lesion type, and many dead seedlings were on sheltered side of clump. "Suppression" might be considered a contributing cause in some cases, where the weaker seedlings were "crowded out". Severe drought losses may be expected in some spots before long unless good rains.

Nearly all cones have been pushed downhill a little and forced into the ground deeper than as placed. Many were nearly "cemented" in place. All were lifted and replaced. This shifting effect of the small cones in some cases almost exposed the seedlings and tended to cause deformity; but it is believed never carried the cone entirely off all of the seed.

Note that F-2-S row failed to show any trace of seedlings - possibly planted too deep or missed altogether. I did not dig in to look for seed, which should be done.

Pine Creek

South

At least in the easterly few rows (large cones), the cones were more solid than in the draw plot; they had settled somewhat (forced in by snow) and the soil was caked a little, holding them in place. They had not shifted downhill enough to carry them off of seed spots. Seed was better distributed than in spots on the draw plot.

General - Unnecessarily large number of seed planted - makes check slower and competition too heavy.

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